ULTRAGROW™

GROWING TIPS

The ultimate functional container-gardening accessory!

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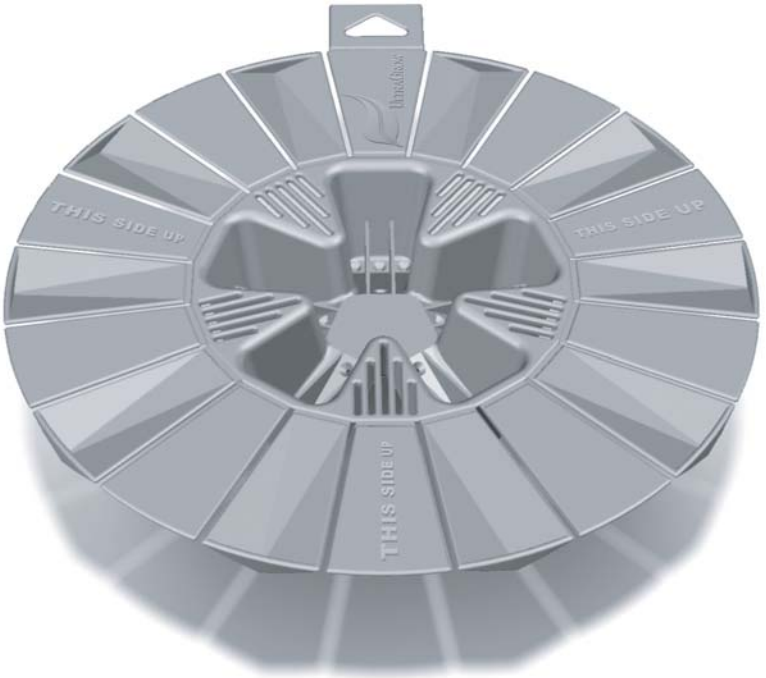
Overview



The UltraGrow planter insert is a highly specialized device designed specifically for the demands of container gardening. The UltraGrow's self adjusting design fits into the bottom of virtually any container, and helps to balance soil conditions. This better balance of soil moisture content, drainage and aeration helps to support and maintain healthy root development. This translates not only into healthier, better looking plants but greater tolerance to heat stress, over watering, over fertilization, poor container design and other factors that frequently impact the health and overall appearance of container grown plants.

The UltraGrow has been carefully designed to provide optimal growing results with no specialized care requirements. After installation, plants may be maintained as usual and still experience improved growing results. However for optimal results, please review the section titled "Getting the most from your UltraGrow".

Installation

The UltraGrow is quickly and easily installed into virtually any container. 1) The inside of the container should be free from any clumps of loose dirt or debris. 2) If the product information sticker is still on the UltraGrow, remove the sticker. 3) Place the UltraGrow right side up into the empty container and press into the bottom. The edge flanges will automatically adjust to fit the internal contours of the container. 4) Fill container with soil and pot plant as usual.

Removal and re-use

For a lifetime of use, the UltraGrow is manufactured from a premium, recyclable plastic formula with Ultra Violet inhibitors.

Sturdy construction and adjustable edge flanges allow the UltraGrow to be repeatedly re-used in a variety of container sizes and styles. Simply empty the container, pull the UltraGrow from the bottom of the container, wash off any soil clinging to the UltraGrow, then press the UltraGrow into the new container and fill with soil as usual.

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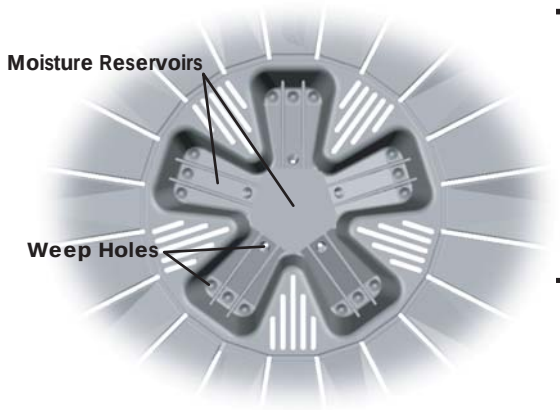
Getting the most from your UltraGrow

Extensive effort has been placed into making the UltraGrow planter insert easy and effective for novice gardeners and experts alike. Getting the most from your UltraGrow involves knowing a little about the plant you are growing, the container you are putting it in and the soil and fertilizer to be used. This may sound complicated to some but the minor amount of effort it takes to make the right selections can result in tremendous enjoyment and lower plant maintenance for years to come.

The weep holes are the principle adjustable feature on the UltraGrow planter insert. The weep holes regulate the amount of moisture allowed to be retained in the moisture reservoirs and how quickly any collected moisture is allowed to drain from the reservoirs .



The UltraGrow comes with three weep holes are already perforated. This is ideal for most house plants and outdoor growing in areas that do not experience excessively hot temperatures (90+ degrees for extended periods of time).

Adjusting the weep holes is only necessary when growing plants with specialized requirements or when plants are to be grown in very hot, dry, sunny locations or cool, damp and shady conditions.

Aside from adjusting the weep holes, the other important factors are container selection, soil selection and fertilizer selection. The following sections will cover these topics.

Container related issues

Containers are available is an almost endless variety of styles and are constructed from a variety of materials raging from clay to fiberglass to cast iron. The type of material used to construct the container, where the container is to be located and the plant to be used all have an impact on growing results.

Dark Colored Containers: Dark colored containers located in sunny outdoor areas are more susceptible to solar gain. This means that the dark color soaks up the suns energy and can potentially make the container very hot. This can damage roots and greatly speed up the rate of evaporation, increasing water requirements. Generally speaking, dark containers should only be used indoors or in shady locations.

Metal Containers - Metal containers, like dark colored containers, are also very susceptible to solar gain. They can rapidly transmit heat and quickly damage roots and literally cook moisture from the soil. Additionally, since metal containers are not porous, they can retain a lot of moisture too. During extended rainy periods or in cool shady locations, root rot and related issues can become a major problem.

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Container related issues (continued)

Terracotta Containers: Terracotta containers are perhaps the single most popular container style. They are inexpensive and attractive. However, due to the porous nature of terracotta and similar clay or earthenware containers, moisture is rapidly drawn from the soil, which causes the soil and roots to dry out, especially in warm sunny locations. This tendency to draw moisture to the exterior of the container also causes roots to grow toward the outer edges and cling to the container walls. Unfortunately these same roots often die quickly or are repeatedly damaged as the container walls fluctuate from moist to dry.

Glazed Clay Containers: Glazed clay containers are perhaps the second most popular container style. The glaze creates a tough, watertight barrier on the exterior of the container. This is beneficial in reducing moisture loss but if drainage is not adequate, root rot and other negative conditions can become a problem. Additionally, air penetration into the root system is often hampered by the impermeable walls.

Concrete Containers: Concrete containers can draw moisture from the soil. But unlike clay containers, the thick walls found in concrete containers tend to store moisture and can actually help regulate soil moisture content. Additionally, the thick moisture laden walls help protect the root system from temperature extremes and make concrete containers a great choice for very hot, sunny locations and cold conditions alike. The heavy wall thickness is beneficial in reducing moisture loss but if drainage is not adequate, root rot and other negative conditions can become a problem.

Fiberglass Containers: Fiberglass containers are exceptionally strong, durable and watertight. The watertight, non porous nature of fiberglass prevents it from cracking or breaking in freezing weather and also discourages excessive moisture loss from the soil. Additionally, the insulative properties of the resin and fiberglass used to construct these containers helps to protect the root system from temperature extremes and makes fiberglass containers a great choice for very hot, sunny locations and cold conditions alike. However, just as in any non-porous container, if drainage is not adequate, root rot and other negative conditions can become a problem. Additionally, air penetration into the root system is often hampered by the impermeable walls.

Expanded Foam Containers: Expanded foam containers are exceptionally light for their size and watertight. The watertight, non porous nature of expanded foam prevents it from cracking or breaking in freezing weather and also discourages excessive moisture loss from the soil. Additionally, the insulative properties of the countless fine air pockets found within the foam walls help to protect the root system from temperature extremes and makes foam containers a great choice for very hot, sunny locations and cold conditions alike. However, just as in any non-porous container, if drainage is not adequate, root rot and other negative conditions can become a problem. Additionally, air penetration into the root system is often hampered by the impermeable walls.

Plastic Containers: Plastic containers sometimes offer great drainage, aeration and moisture reserve capabilities , however due to their frequently "cheap" appearance, plastic containers are often overlooked. Plastic is generally tough and resists breakage for several years. Though there are many great plastic containers on the market, if a less than great design is selected, drainage and aeration can be a problem, potentially leading to root rot and other negative conditions.

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Soil selection

Overview: The UltraGrow planter insert can help improve growing conditions with virtually any soil, but when it comes to soil, just like fertilizer, cheap rarely means good. The selection of a quality organic soil, coupled with the use of the UltraGrow can produce amazing growing results and even reduce up-keep. Many soil options are available, and some are only available in specific regions. For this reason, it is always a good idea to speak with someone knowledgeable at your local garden center. The following are a few general recommendations about soil selection.

Soil with fertilizer already blended in: There are many opinions about the use of soil with fertilizer already blended into it. These soils work well with the UltraGrow, however for the best possible results, a quality fertilizer-free soil should be use and supplement with a quality water soluble fertilizer. For details about selecting the appropriate fertilizer, check the section titles "Fertilizer selection".

Prepackaged specialty soils: When possible, the use of prepackaged specialty soils, such as cactus growing mediums, orchid growing mediums and so on can be highly beneficial, helping the UltraGrow to maintain optimal conditions for root health and development.

Moisture crystals: There are a variety of pre-blended soil types containing "moisture crystals", and packaged "moisture crystal" additives designed to be mixed into soil. These moisture retaining additives are not generally recommended for use with the UltraGrow planter insert, unless the container grown plant is expected to endure high temperatures and direct sun for extended periods of time, or if the plant to be grown has exceptionally high moisture requirements. For all

Fertilizer selection

Overview: Always read the label and remember that cheap rarely means good. When a quality fertilizer is used in conjunction with the UltraGrow planter insert, growing performance can be greatly improved. For use with the UltraGrow, premium water soluble fertilizers, complete with micro nutrients are always recommended and application should be at half strength, but twice as often as the directions indicate.

General purpose growing: For non-flowering house plants and general purpose growing, a water soluble, balanced formula (20-20-20... 12-12-12, etc.) with micro nutrients and trace elements (magnesium, copper, iron, manganese, zinc, etc.) is recommended. For use with the UltraGrow, always dilute the fertilizer to half strength and apply twice as often as the directions indicate. For help selecting a quality fertilizer, consult a knowledgeable person at your local garden center.

Specialized growing: For vegetables, flowering plants, cactus, palm trees and so on, fertilizer formulas vary widely. The best advice is to select a quality water soluble formula, complete with micro nutrients and trace elements. For use with the UltraGrow, always dilute the fertilizer to half strength and apply twice as often as the directions indicate. For help selecting a quality fertilizer, consult a knowledgeable person at your local garden center.

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Flushing the root system

Overview: Most expert gardeners are aware that mineral accumulation from fertilizers and hard water are a common problem, in container grown plants. This accumulation happens over time and coats root hairs, blocking their ability to take in vital moisture and nutrients, dramatically impacting plant health and growing performance. To help combat this problem, the UltraGrow's drainage slits, aeration slits and weep holes allow safe flushing of the soil and root system.

Flushing the root system: Several gallons of water may be applied to the container-grown plant, the large volume of water passing through the root system will help to loosen and wash away mineral build-up from the roots. The excess water will quickly drain through the UltraGrow and the aeration slits will discourage possible root rot, mold and fungal infections.

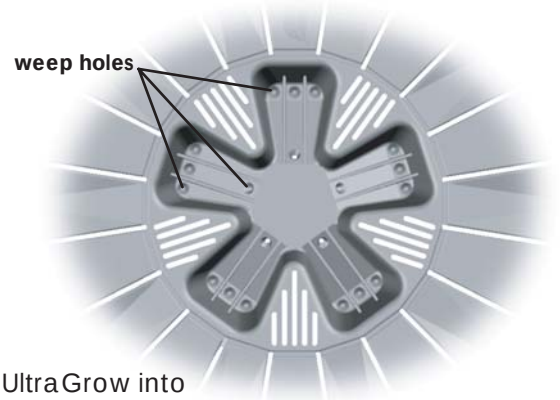
Flushing with Green UltraGrow installed: Containers equipped with the green UltraGrow should generally receive 3 gallons of water applied as quickly as the soil will allow. If the water begins pooling at the top of the container, slow application.

Flushing with Yellow UltraGrow installed: Containers equipped with the yellow UltraGrow should generally receive 4.5 gallons of water applied as quickly as the soil will allow. If the water begins pooling at the top of the container, slow application.

Flushing with Magenta UltraGrow installed: Containers equipped with the magenta UltraGrow should generally receive 6 gallons of water applied as quickly as the soil will allow. If the water begins pooling at the top of the container, slow application.

Flushing schedule: Flushing the soil and root system four times a year is recommended. The following schedule is suggested: Early Spring, Summer, Mid-Summer, Fall.

Adjusting the weep holes



Overview: The moisture reservoir weep holes are preadjusted to suit the needs of most house plants, outdoor annuals and general purpose growing. In many instances the weep holes will never need to be adjusted, however to suit the needs of expert gardeners and specialized growing conditions, the UltraGrow is capable of being adjusted to suit nearly any need.

General - reducing moisture content: Before installing the UltraGrow into a container, use a pen, pencil or other pointed object to perforate the sealed weep holes. This will allow excess moisture to dissipate more quickly from the moisture reservoirs.

General - increasing moisture content: Before installing the UltraGrow into a container, the weep holes located in the moisture reservoirs may be sealed by placing a dab of common household caulk on open weep holes. After the caulk dries, the UltraGrow may be installed and the container can be filled with soil as usual.

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Specialized growing conditions

Overview: To suit the needs of expert gardeners and specialized growing conditions, the UltraGrow is capable of being adjusted to suit nearly any need. Adjustments center on increasing or decreasing the moisture reserves. Simple adjustments facilitate the effective growing of cactus, orchids, vegetables and so forth. Additionally, hot, sunny, dry conditions and cool, shady, moist conditions can be compensated for by these same simple adjustments.

Growing in hot, sunny, dry conditions: If plants are to be grown in potentially hot locations such as a sunny patio or roof top terrace and you regularly experience temperatures above 90 degrees, the UltraGrow can be a real benefit. To properly adjust the UltraGrow for these conditions it is recommended to seal all open/perforated weep holes so the moisture reservoirs may retain their maximum capacity. To do this, the weep holes should be sealed with a dab of common household caulk. When the caulk has dried, the UltraGrow may be installed and the plant potted as usual. In sunny, high heat locations, daily watering is usually needed, however it is always a good idea to check any plant before applying more water and to water only when the soil is generally dry to the touch an inch below the surface.

Growing in cool, shady, moist conditions: If plants are to be grown in potentially cool and damp conditions, the UltraGrow can be a real benefit in preventing root rot, mold and fungal infections. To properly adjust the UltraGrow for these conditions it is recommended to perforate additional weep holes so the moisture reservoirs retain little to no excess moisture. To do this, the weep holes should be perforated with a pen, pencil, nail or similar sharp, pointed object. The number of weep holes to be perforated depends upon how moist the soil tends to stay. If the soil usually dries in 3-4 days, approximately ten weep holes should be perforated. If the soil takes more than five days to dry, every single weep hole should be perforated. Additionally, it is always a good idea to check any plant before applying more water and to water only when the soil is generally dry to the touch an inch below the surface.

Growing Cactus and other plants that require rapid drainage: The UltraGrow is highly effective for growing Cactus and other plants that require rapid drainage and do not tolerate excess soil moisture. For indoor applications of this type, all weep holes should be perforated. For outdoor applications, 10 - 15 weep holes should be perforated - 10 for hotter climates and 15 for cooler climates.

Growing vegetables and other plants with high moisture demands: The UltraGrow is highly effective for growing vegetables and other plants that require additional moisture reserves. For indoor applications of this type, only one of the upper set of weep holes should remain open. For outdoor applications, all weep holes should be sealed.

General advice - growing in terracotta containers: The UltraGrow can help improve growing performance in terracotta containers by compensating for terracotta's natural tendency to draw moisture from the soil. For indoor applications of this type, only two of the upper set of weep holes should remain open. For outdoor applications, only one of the upper set of weep holes should remain open.

General advice - growing in non-porus containers: The UltraGrow can help improve growing performance in non-porus containers by compensating for the lack of adequate aeration and drainage. For indoor applications of this type, no adjustments are ordinarily needed. For outdoor applications, only two of the upper set of weep holes should remain open.

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